



KINGS



COLLEGE OF ENGINEERING

DEPARTMENT OF INFORMATION TECHNOLOGY

QUESTION BANK

Sub.Code/ Name : IT1452 – FUNDAMENTALS OF PERVASIVE COMPUTING

Year / Sem : IV / VIII

UNIT- I

PERVASIVE ARCHITECHTURE

PART- A (2 MARKS)

1. What is pervasive computing era?
2. What is the aim of ubiquitous computing?
3. What is the principle of pervasive computing?
4. What are the other terms of pervasive computing?
5. What is Ubiquitous computing?
6. What is sentient computing?
7. Define context adaptive system.
8. What are the applications of wearable computers?
9. What are the features of wearable computers?
10. Define aware systems
11. What is AML?
12. What are the key challenges of urban computing?

PART- B (16 MARKS)

1. Explain the requirements of computational infrastructures (16)
2. Explain the pervasive computing technology compare with Ubiquitous computing (16)
3. Explain in detail about the relationship between pervasive and mobile computing (16)
4. List and explain the applications of pervasive computing (16)
5. What are the most important characteristics of pervasive environments? (16)
6. What are the features of distributed computing? (16)
7. What are the Design and implementation problems in pervasive comp? (16)
8. Explain in detail about the pervasive web application architecture (16)

UNIT - II

MOBILE DEVICE TECHNOLOGIES

PART - A (2 MARKS)

1. What are the characteristics of mobile computing devices?
2. What are the features of mobile computing?
3. List the advantages of push mode.
4. What is the framework for Data Dissemination and Management
5. What are the 2 categories of context?
6. List the 5w of context
7. What is mobile agent?
8. Define the following

9. Write down the advantages of the Mobile Agent Paradigm

PART- B (16 MARKS)

1. Explain the data dissemination and management. (16)
2. Explain the features of software operating system. (16)
3. Explain context awareness of the pervasive systems. (16)
4. What is the EPOC operating system consists of the following features. (16)
5. What are the three types of browsers available for mobile devices (16)
6. List and explain Technical Advantage of Mobile agents (16)
7. List and explain applications of mobile agents. (16)
8. Explain the functionalities of mobile agent systems. (16)
9. Explain the adaptation features used by the mobile computing devices. (16)

UNIT - III

SENSOR NETWORKS AND RFID'S

PART - A (2 MARKS)

1. List the advantages and disadvantages of Active RFID tags:
2. What is ACTIVE RFID?
3. What is PASSIVE RFID?
4. Write down the advantages and disadvantages of passive RFID
5. When RFID tag collision occurs?
6. What is sensor?
7. What are Sensor Networks?

8. What are the Elements of sensor networks?
9. Define: Wireless Sensor Networks
10. List the properties of sensor network.
11. Draw the protocol stack of sensor network
12. Why we need wireless communication channel?
13. What is advantages and disadvantages of (laser)
14. What is infrared communication?
15. Describe about RFID's
16. What are the two main classes (based on applications) of Sensors networks and explain in detail.
17. What are Data gathering sensor networks?
18. Define: Event detection sensor networks.

PART- B (16 MARKS)

1. Explain in detail about the following:
 - (a) RFID Transponder and reader architecture. (08)
 - (b) Types of Tags and readers (08)
2. Explain about sensor node architecture (16)
3. Explain about sensor network architecture (16)
4. Explain the types of sensor networks (16)
5. Explain the applications of wireless sensor networks. (16)
6. Explain the application of RFID technologies (16)

UNIT- IV

LOCAL AREA AND WIDE AREA WIRELESS TECHNOLOGIES

PART - A (2 MARKS)

1. What are the features of IEEE 802.11?
2. What are the components used in IEEE 802.11- System
3. List the 2 basic architecture in IEEE 802.11- System
4. What are piconets and scatternets?
5. Draw the WPAN –Beacon Mode and Super frame Structure
6. Write down the 3 ways followed in WPAN –IEEE 802.15.4-Data Transmission
7. What are the two different types of devices are defined in an 802.15.4 network.
8. Why we go for Mesh topology?
9. What are the requirements needed for mobile IP?
10. What is cellular telephony?
11. List the specifications included in Bluetooth.
12. What is the use of OBEX object model?

PART- B (16 MARKS)

1. a) Write down the application classes of the Bluetooth synchronization classes.(08)
b) Explain the OBEX protocol operations. (08)
2. a) Short notes on Mobility management (08)
b) Give short note on Mobile IP (08)

3. Explain the concept and structure of cell. (16)
4. Explain the personal area networks. (16)
5. Explain the IEEE 802.11 system architecture (16)
6. Explain the concept of frequency assignment techniques in cell system (16).
7. Discuss medium access control and MAC layer issues of Bluetooth in details (16)
8. What is importance of cell structure in establishing wide area wireless network? (16)

UNIT - V

PROTOCOLS AND APPLICATIONS

PART - A (2 MARKS)

1. List down routing protocol for sensor networks.
2. What are hierarchical routing protocols?
3. What are the Flat Routing Protocols?
4. List the Location Based Routing Protocols.
5. What are the Characteristics of http 1.0?
6. Write a note on MMS protocol?

PART- B (16 MARKS)

1. Discuss why routing protocols for fixed network cannot used for wireless Sensor network and explain any two flat routing protocols used for sensor Networks. (16)
2. Explain WAP architecture. (16)
3. Explain the applications of pervasive computing in details. (16)

- 4. a) Short notes on hierarchical routing protocols (08)
- b) Short notes on Location Based Routing Protocols (08)
- 5. Explain the multimedia messaging service protocols. (16)

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